

IN THE CLAIMS:

Amend claims 19, 24, and 48 as follows and cancel claims 51-58:

19. (Currently Amended) A method of treating fluids by use of at least one bulk material comprising:

a. flowing a fluid substantially through a plurality of bulk material beds, said fluid flowing from a bottom to a top of at least one bulk material bed;

b. moving said at least one bulk material in at least one of said bulk material beds countercurrent to the flow of said fluid through at least one of said bulk material beds;

c. delivering said at least one bulk material via a movable bulk material delivery mechanism for at least partially adding said at least one bulk material to said top of said at least one bulk material bed, moving said bulk material delivery mechanism, and then adding said at least one bulk material to a top of another bulk material bed wherein said movable bulk material delivery mechanism is movable to a plurality of said bulk material beds so as to provide substantially even distribution of said at least one bulk material over a given bulk material bed until said at least one bulk material in said at least one bulk material bed has been properly exchanged;

d. operating said plurality of said bulk material beds in parallel such that said removing and said adding of said at least one bulk material in said plurality of said bulk material beds occurs successively; and,

e. said at least one bulk material bed includes a loading opening adapted to receive said at least one bulk material into said top of said bulk material bed, and at least one closeable unloading opening to controllably remove said at least one bulk material from said bottom of said at least one bulk material bed.

20. (Original) The method as defined in claim 19, wherein said at least one bulk material bed has been properly exchanged with said at least one bulk material when said at least one bulk material has reach a desired height in said at least one bulk material bed or until a desired amount of said at least bulk material has been removed and replenished in said at least one bulk material bed.

21. (Original) The method as defined in claim 20, wherein said at least one bulk material bed has been properly exchanged with said at least one bulk material by at least partially removing

said at least one bulk material from said bottom of said at least one bulk material bed while said at least one bulk material is at least partially added to said top of said at least one bulk material bed.

22. (Original) The method as defined in claim 20, wherein said at least one bulk material bed has been properly exchanged with said at least one bulk material by at least partially adding said at least one bulk material to said top of said at least one bulk material bed without removing said at least one bulk material from said bottom of said at least one bulk material bed.

23. (Canceled)

24. (Currently Amended) A method of treating fluids by use of at least one bulk material comprising:

a. flowing a fluid substantially through a plurality of bulk material beds, said fluid flowing from a bottom to a top of at least one bulk material bed;

b. moving said at least one bulk material in at least one of said bulk material beds countercurrent to the flow of said fluid through at least one of said bulk material beds;

c. at least partially adding said at least one bulk material to said top of said at least one bulk material beds so as to provide substantially even distribution of said at least one bulk material over a given bulk material bed until said at least one bulk material in said at least one bulk material bed has been properly exchanged;

d. operating a plurality of said bulk material beds in parallel such that said removing and said adding of said at least one bulk material in a plurality of said bulk material beds occurs successively;

e. said at least one bulk material bed includes a loading opening adapted to receive said at least one bulk material into said top of said bulk material bed, and at least one closeable unloading opening to controllably remove said at least one bulk material from said bottom of said at least one bulk material bed;

f. including a movable bulk material delivery mechanism to at least partially deliver said at least one bulk material to said plurality of said bulk material beds, wherein the movable bulk material delivery mechanism moves from said top of said at least one bulk material bed and then to a top of another bulk material bed;

g. said movable bulk material delivery mechanism includes a container, said container including a plurality of slit openings or linear openings that are used to at least partially deliver said at least one bulk material to said plurality of said bulk material beds; and,

h. said container is movable on guides, and said container includes a trough with closeable unloading openings which are arranged over a trough floor in a surface distribution.

25. (Canceled)

26. (Previously Presented) The method as defined in claim 24, further including at least partially replenishing said movable bulk material delivery mechanism with said at least one bulk material after said movable bulk material delivery mechanism has at least partially delivered said at least one bulk material to at least one of said plurality of said bulk material beds.

27. (Canceled)

28. (Canceled)

29. (Previously Presented) The method as defined in claim 19, including a movable bulk material reception mechanism wherein said movable bulk material reception mechanism conveys at least a portion of said at least one bulk material to said movable bulk material delivery mechanism.

30. (Previously Presented) The method as defined in claim 19, including a movable bulk material reception mechanism wherein said movable bulk material delivery mechanism and said moveable bulk material reception mechanism are respectively moved over and under the same bulk material bed, and an amount of said at least one bulk material delivered to said bulk material bed is at least partially determined by an amount of said at least one bulk material portion which has been removed from said bulk material bed.

31. (Previously Presented) The method as defined in claim 29, wherein said flow of said fluid is interrupted or throttled by said movable bulk material delivery mechanism and/or said moveable bulk material reception mechanism.

32. (Original) The method as defined in claim 24, including a plurality of sources to supply said at least one bulk material to said movable bulk material delivery mechanism.

33. (Previously Presented) The method as defined in claim 24, wherein said movable bulk material delivery mechanism supplies at least two different bulk materials to said at least one bulk material bed.

34. (Original) The method as defined in claim 19, wherein said bulk material bed includes a plurality of different types of bulk material.

35. (Original) The method as defined in claim 34, wherein at least two different types of bulk material are substantially layered in said bulk material bed.

36. (Original) The method as defined in claim 34, wherein at least two different types of bulk material include at least one adsorbent and at least one chemically reactive component.

37. (Original) The method as defined in claim 36, wherein said at least one adsorbent includes activated coke, and said at least one chemically reactive component includes calcium hydroxide.

Claims 38-47 (Canceled)

48. (Currently Amended) A method for treating fluids by at least one type of bulk material comprising:

- a. introducing a first bulk material having a first treatment agent in a fluid stream;
- b. entraining said first bulk material on a filter as said fluid flows through the filter;
- c. removing a filter cake formed by said first bulk material on said filter;
- d. at least partially treating said fluid with said first bulk material in a moving bed reactor, said moving bed reactor including a bulk material bed at least partially formed of a second bulk material having a second treatment agent, said fluid substantially flowing from a bottom to a top of said bulk material bed and said second bulk material substantially moving from the top to the

bottom of said bulk material bed,

e. adding said second bulk material to said top of said bulk material bed and removing said second bulk material from said bottom of said bulk material bed, said adding said first and said second bulk material includes a movable bulk material delivery mechanism to at least partially deliver at least said first bulk material to a plurality of said bulk material beds wherein the movable bulk material delivery mechanism moves from a top of one bulk material bed and then to a top of another bulk material bed; and,

f. at least partially separating said first bulk material from said fluid in said bulk material bed.

49. (Original) The method as defined in claim 48, wherein fluid is post reacted with said first bulk material and further treated by said second bulk material as said fluid flow through said moving bed reactor.

50. (Original) The method as defined in claim 48, wherein said first and said second bulk materials are removed together at said bottom of said bulk material bed.

Claims 51-58 Cancelled

THE OFFICE ACTION

Claims 51-58 were withdrawn from further consideration pursuant to 37 CFR 1.142 (b).

Claims 19-22, 24, 26, 29-36, and 48-50 were rejected under 35 U.S.C. 102(b) as being anticipated by Grochowski (U.S. Patent No. 5,603,907).

Claim 37 was rejected under 35 U.S.C. 103(a) as being unpatentable over Grochowski (U.S. Patent No. 5,603,907) in view of Romey et al. (U.S. Patent No. 4,764,355).

THE CLAIMS DISTINGUISH OVER THE REFERENCES OF RECORD

As the Examiner is aware, applicant claims a method of treating fluids by use of at least one bulk material comprising flowing a fluid substantially through a plurality of bulk material beds, the fluid flowing from a bottom to a top of at least one bulk material bed. The bulk material is moved countercurrent to the flow of the fluid through at least one of the bulk material beds.

Applicant discussed with the Examiner, via a telephone call on September 13, 2006, some of the features of Applicant's disclosure. Namely, Applicant's disclosure provides for a **movable bulk material delivery mechanism to at least partially deliver said at least one bulk material to said at least one bulk material bed and then to at least another bulk material bed**. Thus, the movable bulk material delivery mechanism is movable successively to a plurality of said bulk material beds (refer to Figure 6a).

In contrast, the '907 patent does not relate to bulk material moving beds in which the bulk material is fed by a movable bulk material delivery mechanism. **The '907 patent describes a fixed or non-movable bulk material delivery mechanism** wherein "... a fluidized bed reactor (12) consisting of altogether eight parallel-operating treatment reactor (10) ... each individual treatment reactor has a bulk material supply bin (17), a bulk material distribution base (18) with an integrated fluid collection space (31) that is also connected with the fluid outlet openings (16) ..." (column 5, lines 20-37). Thus, the '307 patent describes a dedicated bulk material supply bin (17) supplying an associated and fixed bulk material distribution base. Therefore, Applicant's invention is not anticipated nor made obvious by the '907 reference.

Independent claim 19 has been amended and now recites "... delivering said at least one bulk material **via a movable bulk material delivery mechanism** for at least partially adding said at least one bulk material to said top of said at least one bulk material bed, moving said bulk

material delivery mechanism, and then adding said at least one bulk material to a top of another bulk material bed wherein said movable bulk material delivery mechanism is movable to a plurality of said bulk material beds so as to provide substantially even distribution of said at least one bulk material over a given bulk material bed until said at least one bulk material in said at least one bulk material bed has been properly exchanged . . .” (refer to Figure 6a).

Applicant’s invention is not anticipated nor made obvious by the ‘907 reference. Therefore, independent claim 19, and all claims dependent therefrom are not anticipated for at least the reasons stated above.

Independent Claim 24 has been amended and now recites “. . . including a movable bulk material delivery mechanism to at least partially deliver said at least one bulk material to said plurality of said bulk material beds, wherein the movable bulk material delivery mechanism moves from said top of said at least one bulk material bed and then to a top of another bulk material bed . . .”. Independent claim 24 recites a **moveable** bulk material delivery mechanism which includes a container for delivering bulk material to a plurality of bulk material beds. Further, claim 24 recites that the container is **moveable** on guides, and that the container includes a trough with closeable unloading openings which are arranged over a trough floor in a surface distribution. The arguments raised above with respect to independent claim 19 are equally appropriate here and will not be repeated. For at least the reasons stated above, independent claim 24, and all claims dependent therefrom, are not anticipated nor made obvious by the cited references.

Claim 48 has been amended and now recites “. . . adding said second bulk material to said top of said bulk material bed and removing said second bulk material from said bottom of said bulk material bed, said adding said first and said second bulk material includes a movable bulk material delivery mechanism to at least partially deliver at least said first bulk material to a plurality of said bulk material beds wherein the movable bulk material delivery mechanism moves from a top of one bulk material bed and then to a top of another bulk material bed . . .”.

The arguments raised above with respect to independent claim 19 are equally appropriate here and will not be repeated. For at least the reasons stated above, independent claim 48, and all claims dependent therefrom, are not anticipated nor made obvious by the cited references.

CONCLUSION

Applicant canceled claims 51-58 in the present amendment. Each issue raised in the Office Action date July 12, 2006 has been addressed. Applicant believes all remaining claims are in condition for allowance, and respectfully requests notice thereof. Applicant's attorney can be reached at the telephone number below if any further information is needed.

Respectfully submitted,
FAY, SHARPE, FAGAN, MINNICH & McKEE

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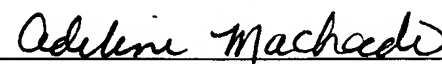
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CERTIFICATE OF MAILING

I certify that this Amendment is being

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